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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,187	01/26/2004	Kiyoshi Tsuchida		6503

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EXAMINER

KORNAKOV, MICHAEL

ART UNIT PAPER NUMBER

1746

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/763,187

Applicant(s)

TSUCHIDA, KIYOSHI

Examiner

Michael Kornakov

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 10/086,691.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 01/26/04
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 14-18 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 6-9 and 12 of copending Application No. 10/086,691. Although the conflicting claims are not identical, they are not patentably distinct from each other, because both claims of the instant Application and those of US'691 recite essentially the same steps of the method for manufacturing semiconductor device, in the sequence of steps identical to each other using the same types of molds having substantially identical concaved surfaces, providing substantially identical resin particles, opposing and contacting the surfaces of both molds in substantially the same manner, injecting the resin, removing the sheet, disposing semiconductor chip inside the respective openings, and finally encapsulating semiconductor chip with the encapsulating resin. The differences between the claims of

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the instant Application and those of US'691 are in slightly different identification of the mold surfaces, thus the instant claim 14 calls for first and second concave portions on the first mold, while claim 6 of US'691 calls only for the first concave portion on the first mold, however, it would have been obvious to those skilled in the art to utilize two concave portions in lieu of one as further provided by US'691, and as such these two sets of claims are obvious variants of each other, and if patented both inventions, it would not be possible to practice either one of them without infringing the other one.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

2. It is noted that the conflicting claims **HAVE NEVER BEEN RESTRICTED** in the parent Application.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of possible minor errors. Applicant's cooperation is requested in correcting any errors, of which Applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 03202327.

JP'327 discloses a method for manufacturing a semiconductor device comprising the steps of:

- Providing a first mold(1) having a main surface and a second mold (2) having a main surface, and provided with the first and second concaved portions 2₁ (abstract)
- Providing a resin (see abstract)
- Providing a paper sheet 20 having plural openings 20₁, each having a diameter and thorough holes 20₁ (see Fig.1)
- Opposing and contacting the main surface of the first mold and the main surface of the second mold and disposing the sheet 20 between the main surface of the first mold 1 and the main surface of the second mold 2 in order to situate the first and second concaved portions in the region wherein the thorough hole is disposed (see Fig.2)

- After that injecting the resin to the inside of the openings surrounded with the main surface of the first mold and the first and second concaved portions (abstract).
- Removing the sheet and the resin on the main surfaces of the first mold and the second mold (abstract).
- Encapsulating plural semiconductor chips 3 with the resin after the cleaning process (see Fig.9 and 10)

JP'327 does not specifically disclose that after the removal of the sheet the semiconductor chip is disposed inside the opening surrounded with the main surface of the first mold and the first concaved portion and disposing a second semiconductor chip inside a second opening. However, Fig.9 provides for disposing multiple chips on the surface of the first mold, and showing that the surfaces of the first mold and the second mold are opposed. Therefore, it would have been obvious to those skilled in the art at the time the invention was made to dispose the first and second semiconductor chips inside the openings surrounded with the main surfaces of the first and second molds in order to ensure more complete encapsulation of the semiconductor chip with the encapsulating resin.

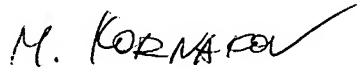
7. Other prior art of record cited in PTOL-892 shows methods of cleaning molds using mold cleaning sheets, methods encapsulating electronic parts with molding resins.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Kornakov whose telephone number is (571) 272-1303. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael Kornakov
Primary Examiner
Art Unit 1746

04/01/2005